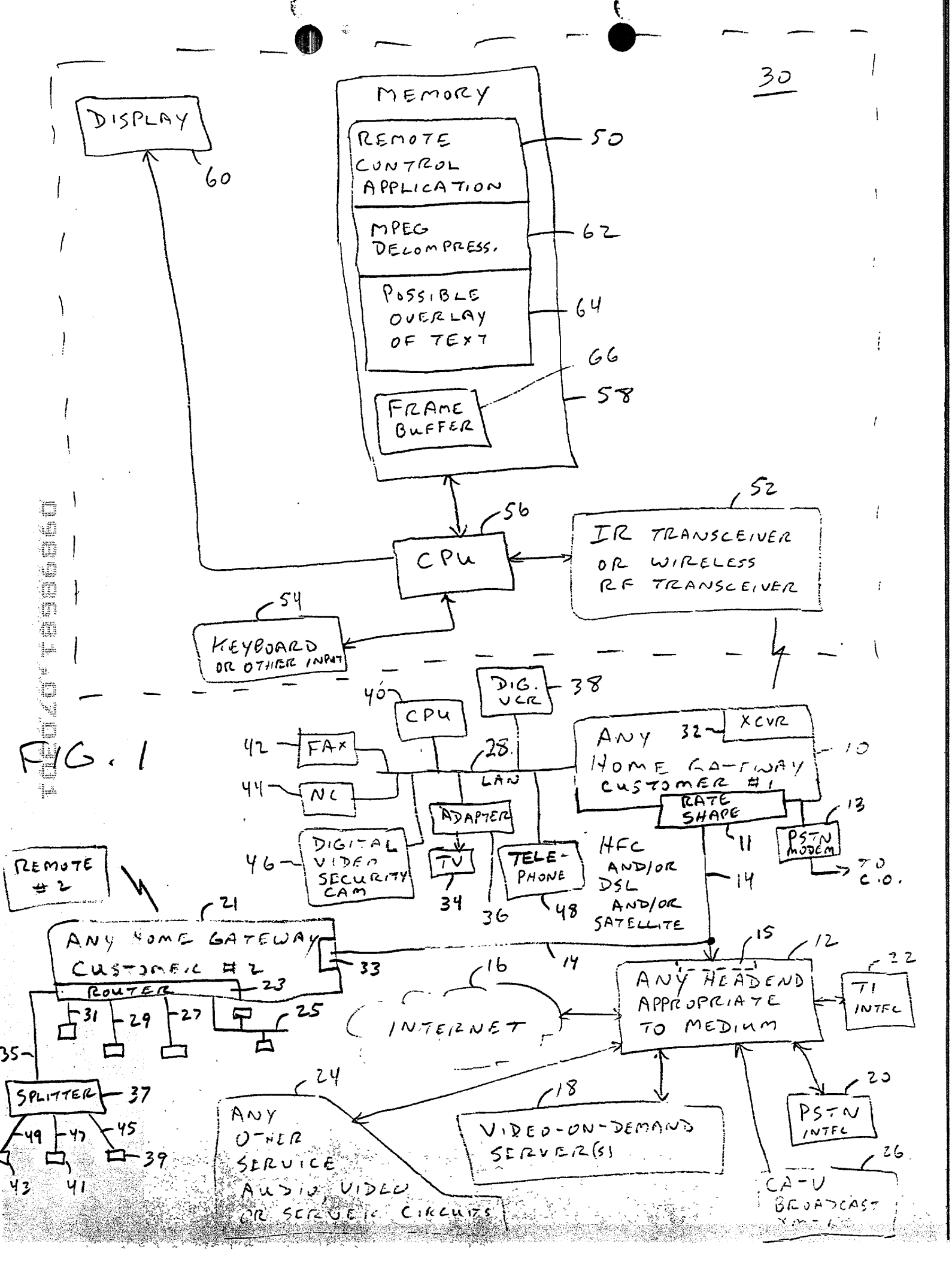

30
MEMORY
DISPLAY
60
REMOTE CONTROL APPLICATION
50
MPEG DECOMPRESS.
62
POSSIBLE OVERLAY OF TEXT
64
FRAME BUFFER
66
58
52
CPU
56
IR TRANSCEIVER OR WIRELESS RF TRANSCEIVER
54
KEYBOARD OR OTHER INPUT
40
CPU
DIG. VCR
38
42
FAX
28
LAN
ANY HOME GATEWAY CUSTOMER #1
32
XCVR
10
44
NC
RATE SHAPE
11
PSTN MODEM
13
TO C.O.
ADAPTER
DIGITAL VIDEO SECURITY CAM
46
TV
34
TELE-PHONE
36
48
HFC AND/OR DSL AND/OR SATELLITE
14
REMOTE #2
21
ANY HOME GATEWAY CUSTOMER #2
33
ROUTER
23
31
29
27
25
35
SPLITTER
37
49
47
45
39
43
41
16
INTERNET
15
12
ANY HEADEND APPROPRIATE TO MEDIUM
22
T1 INTFC
24
ANY OTHER SERVICE AUDIO, VIDEO OR SERVICE CIRCUITS
18
VIDEO-ON-DEMAND SERVER(S)
20
PSTN INTFC
26
CA-U BROADCAST

FIG. 1

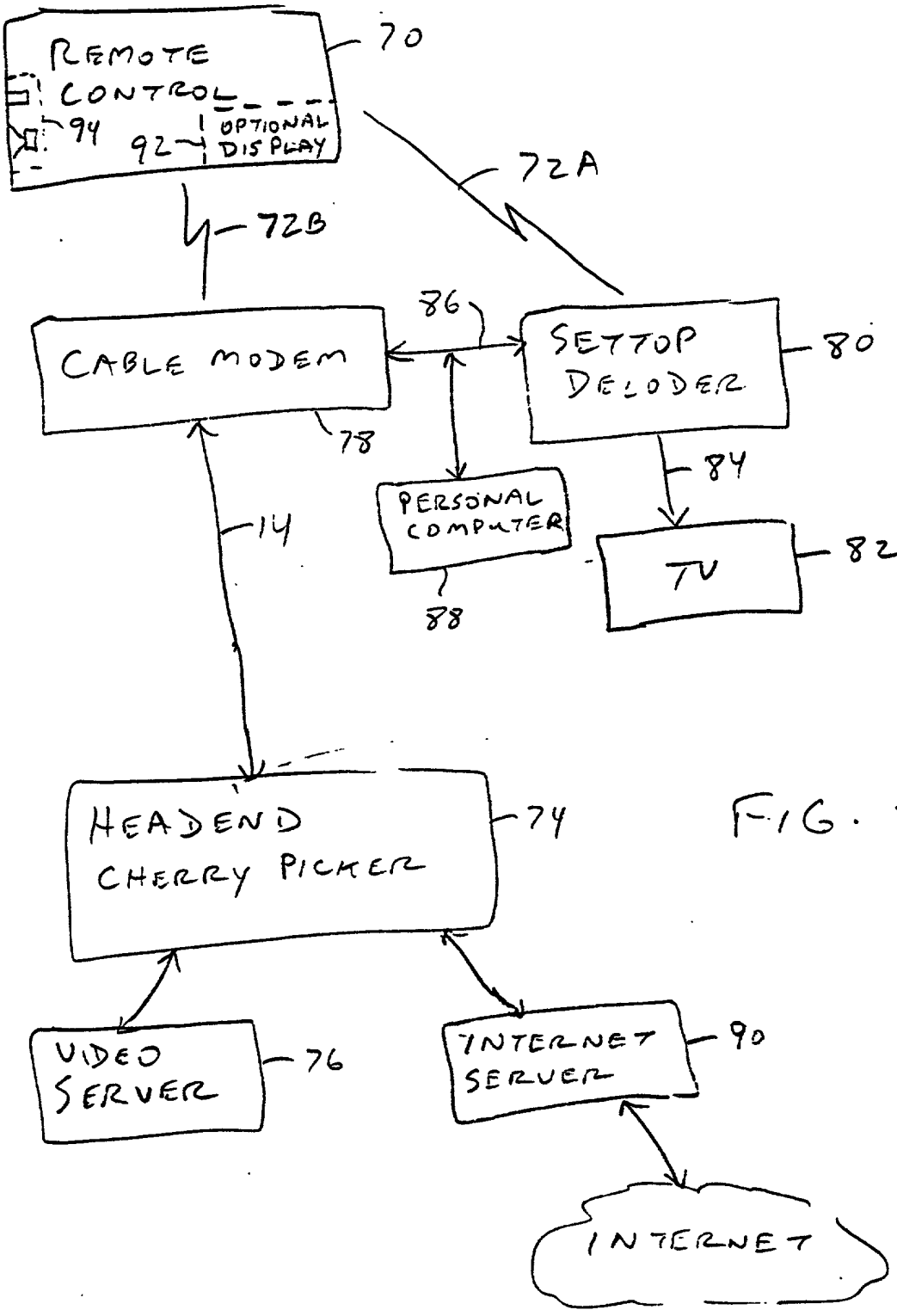

REMOTE CONTROL
70
94
92
OPTIONAL DISPLAY
72A
72B
CABLE MODEM
86
SETTOP DECODER
80
78
84
PERSONAL COMPUTER
14
TV
82
88
HEADEND CHERRY PICKER
74
VIDEO SERVER
76
INTERNET SERVER
90
INTERNET

FIG. 2

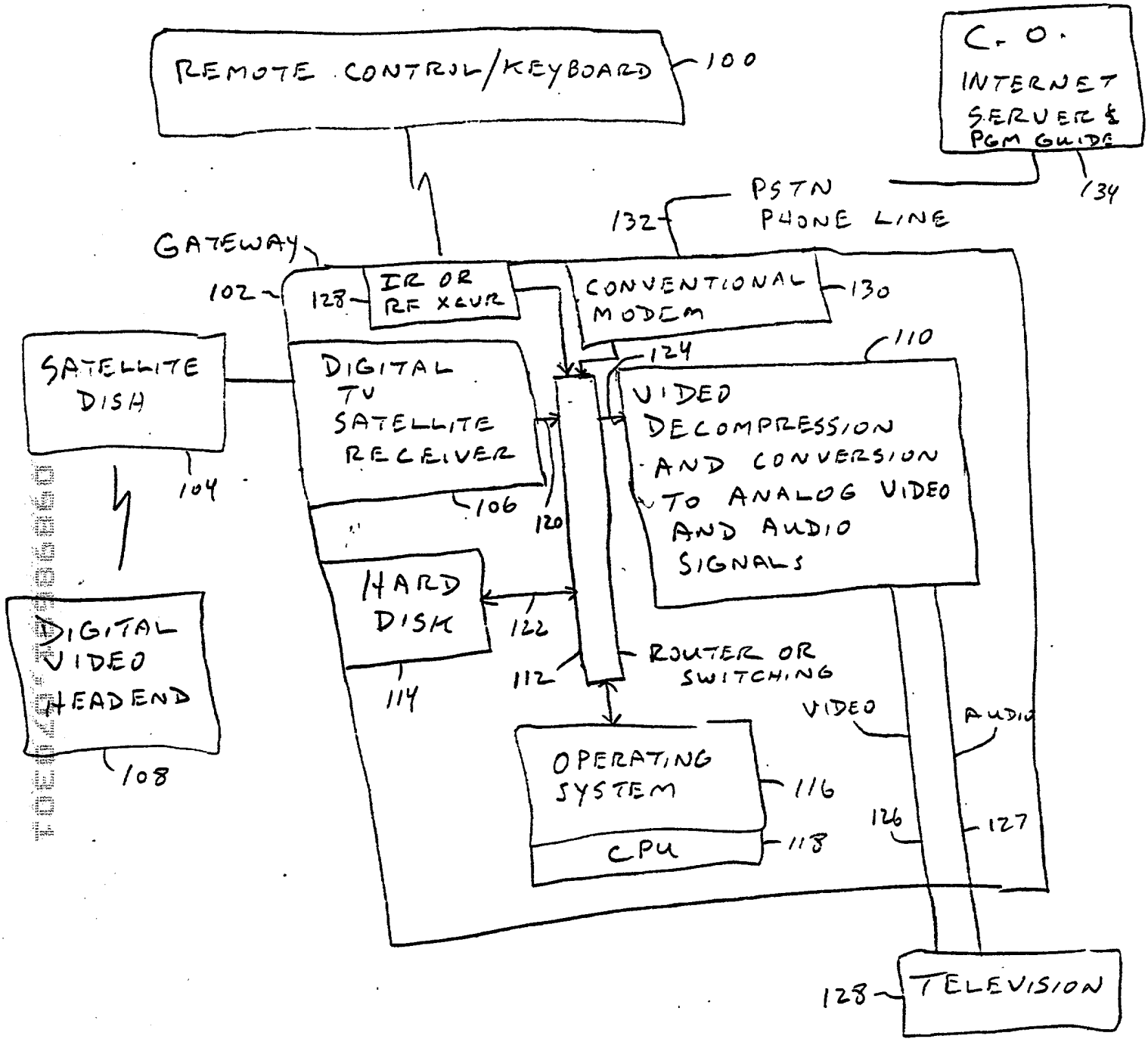

REMOTE CONTROL/KEYBOARD
100
C. O.
INTERNET
SERVER &
PGM GUIDE
134
PSTN
PHONE LINE
132
GATEWAY
102
128
IR OR
RF XCVR
CONVENTIONAL
MODEM
130
SATELLITE
DISH
104
DIGITAL
TV
SATELLITE
RECEIVER
106
124
110
VIDEO
DECOMPRESSION
AND CONVERSION
TO ANALOG VIDEO
AND AUDIO
SIGNALS
120
HARD
DISK
114
122
DIGITAL
VIDEO
HEADEND
108
ROUTER OR
SWITCHING
112
VIDEO
AUDIO
OPERATING
SYSTEM
116
CPU
118
126
127
128
TELEVISION

FIG. 3

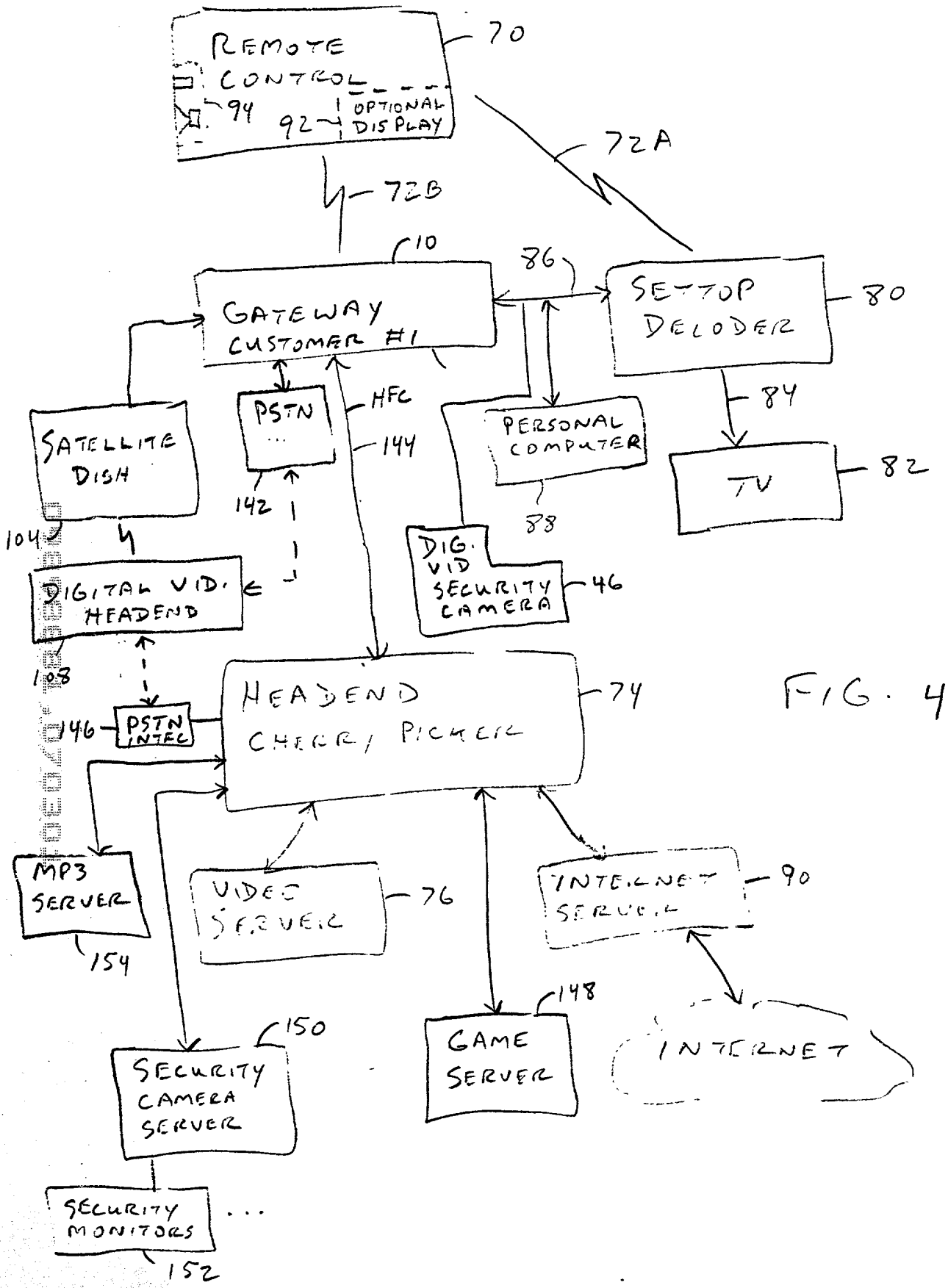

REMOTE CONTROL
70
94
92
OPTIONAL DISPLAY
72A
72B
10
GATEWAY CUSTOMER #1
86
SETTOP DECODER
80
SATELLITE DISH
PSTN
HFC
144
142
PERSONAL COMPUTER
88
84
TV
82
104
DIGITAL VID. HEADEND
DIG. VID SECURITY CAMERA
46
108
HEADEND CHERRY PICKER
74
146
PSTN INTFC
MP3 SERVER
154
VIDEO SERVER
76
INTERNET SERVER
90
148
GAME SERVER
INTERNET
150
SECURITY CAMERA SERVER
SECURITY MONITORS
152

FIG. 4

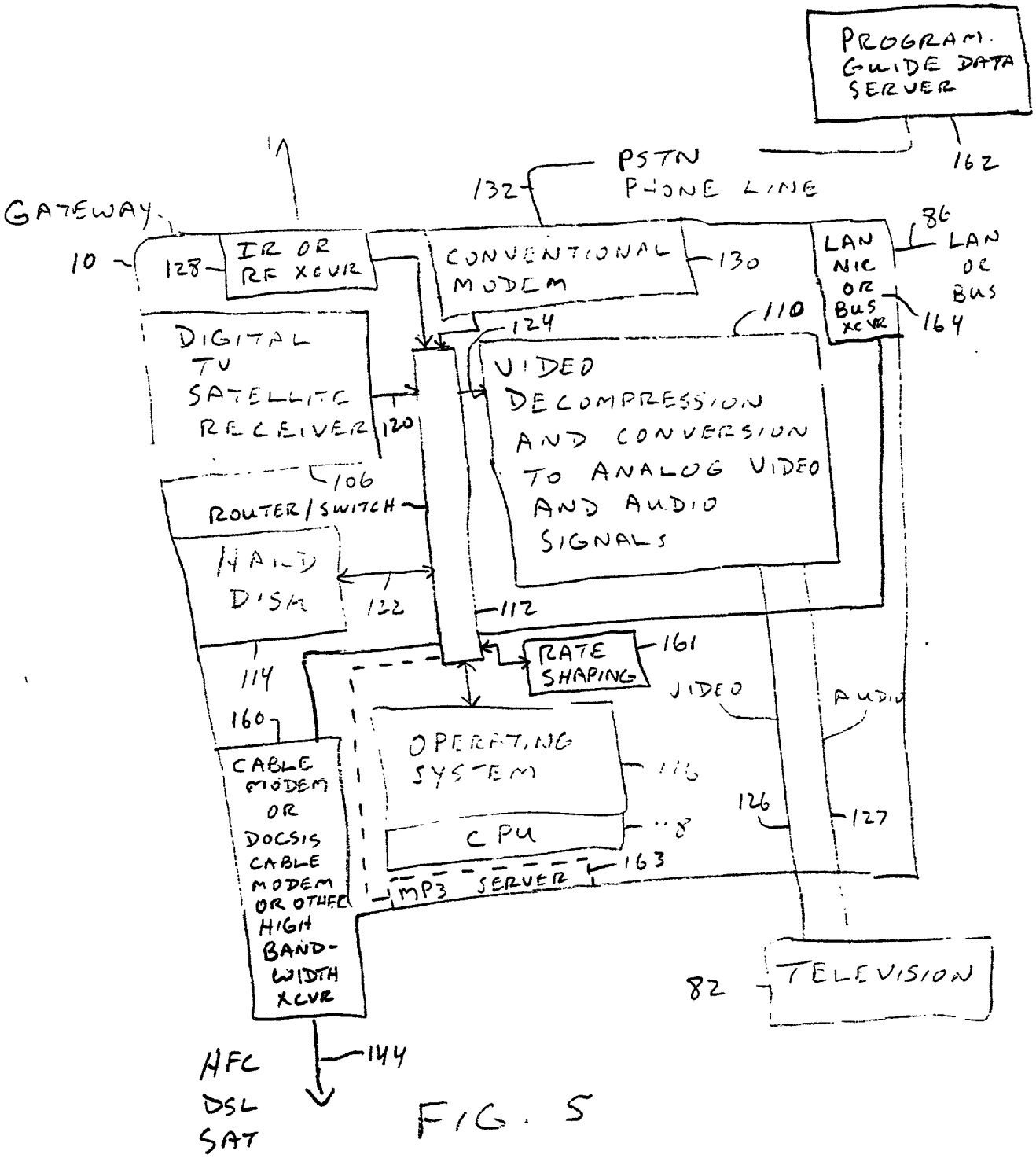

PROGRAM. GUIDE DATA SERVER
162
PSTN PHONE LINE
132
GATEWAY
10
128
IR OR RF XCVR
CONVENTIONAL MODEM
130
LAN NIC OR BUS XCVR
86
LAN OR BUS
164
DIGITAL TV SATELLITE RECEIVER
120
124
110
VIDEO DECOMPRESSION AND CONVERSION TO ANALOG VIDEO AND AUDIO SIGNALS
106
ROUTER/SWITCH
HARD DISK
122
112
RATE SHAPING
161
114
160
VIDEO
AUDIO
OPERATING SYSTEM
116
CPU
118
126
127
MP3 SERVER
163
CABLE MODEM OR DOCSIS CABLE MODEM OR OTHER HIGH BAND-WIDTH XCVR
TELEVISION
82
HFC
DSL
SAT
144

FIG. 5

HEADEND ARCHITECTURE TO SEND DATA AND VOD AND/OR BROADCAST DATA TO CUSTOMERS VIA HFC

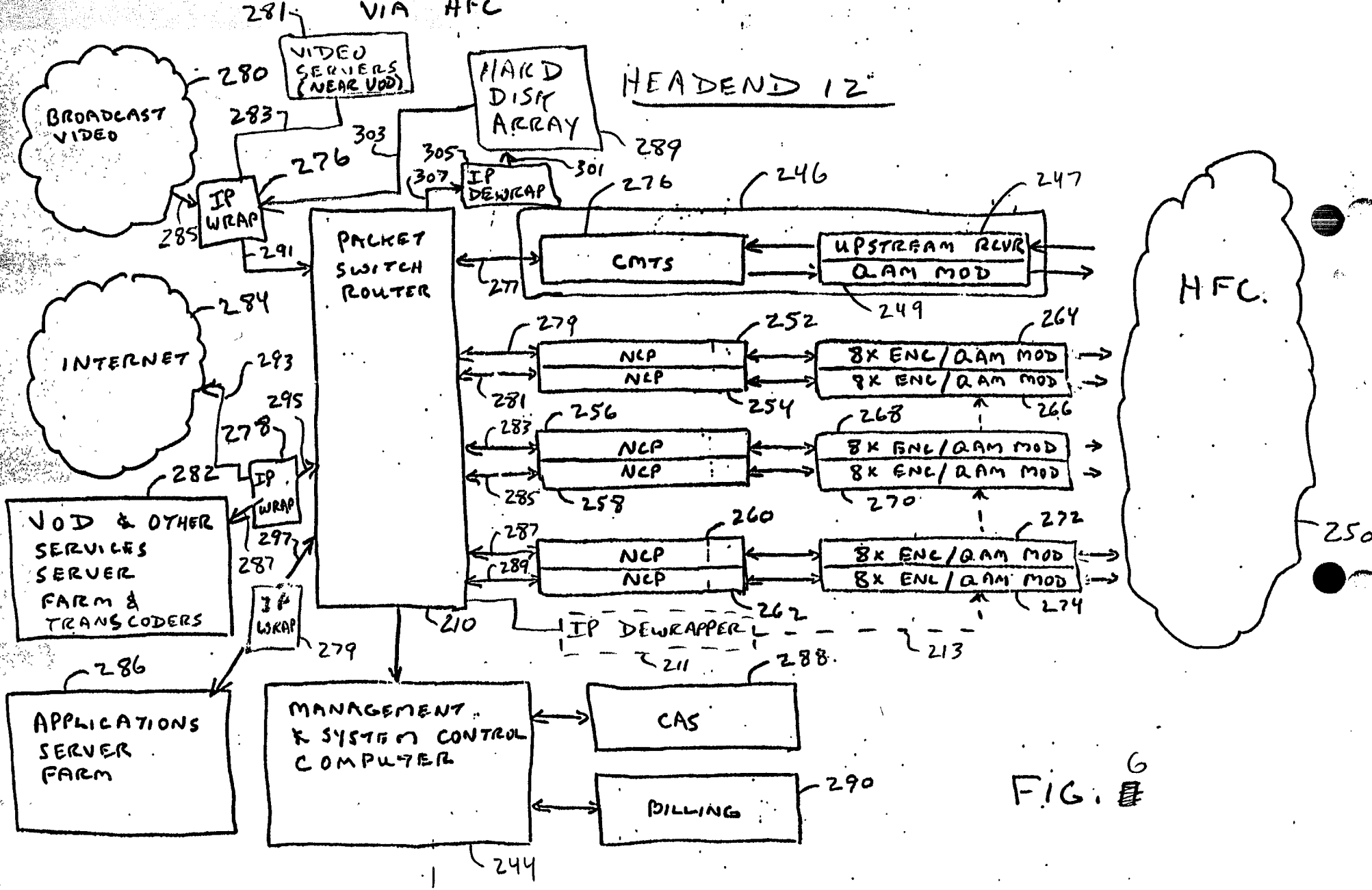


FIG. 6

EMBODIMENT FOR TRANSMISSION OF DATA AND VIDEO PROGRAM DATA FROM HEADEND TO CUSTOMERS

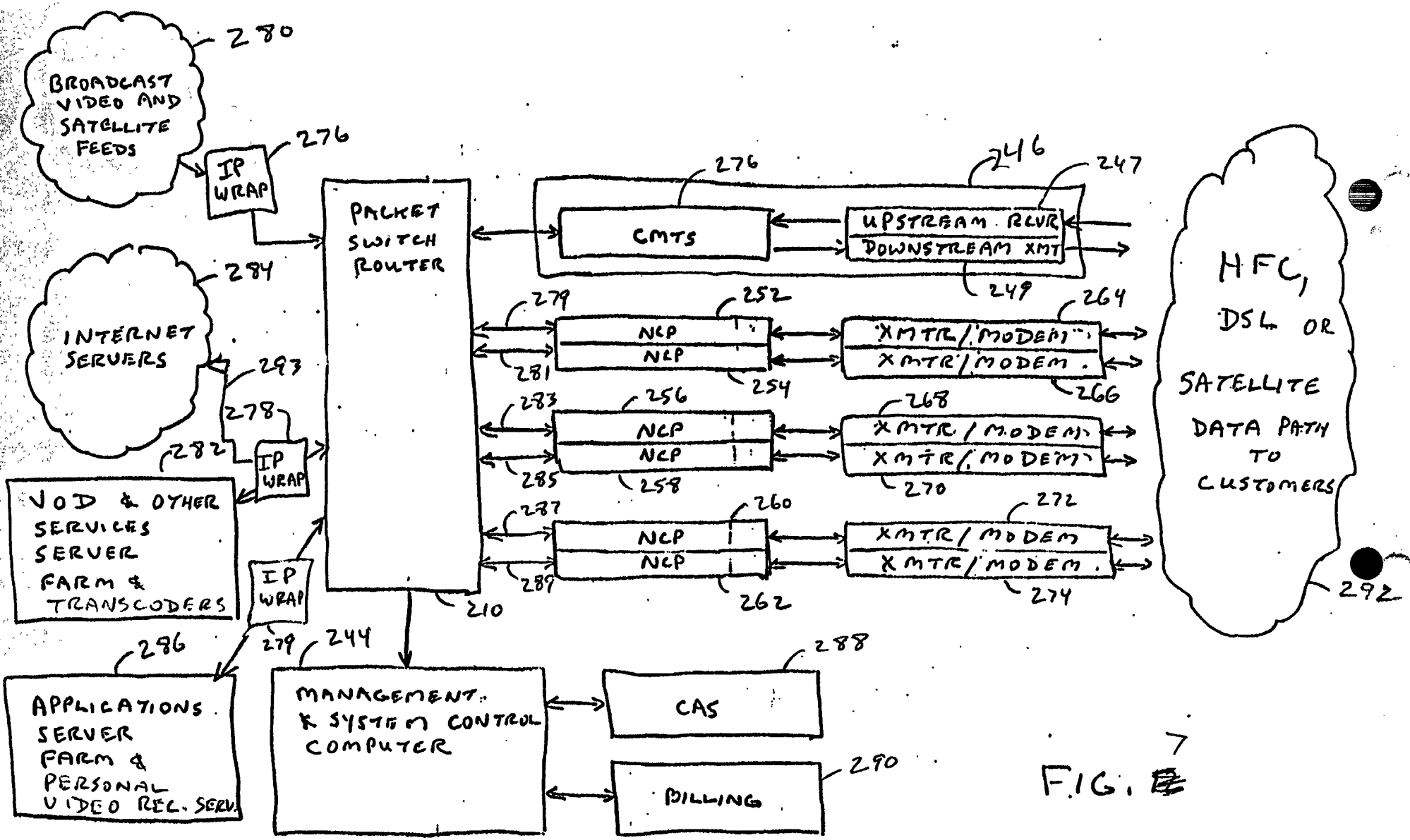
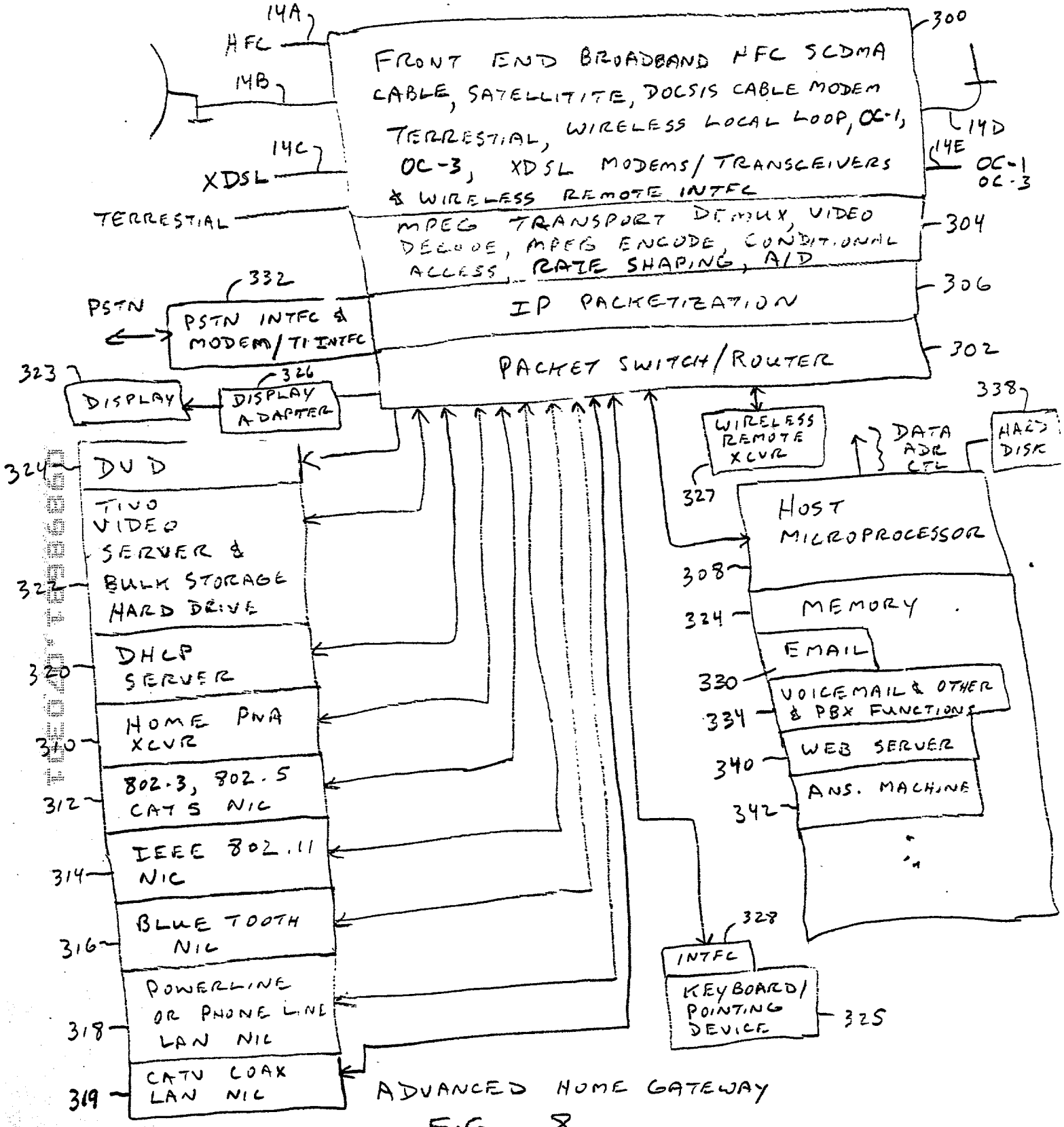


FIG. 7



ADVANCED HOME GATEWAY

FIG. 8

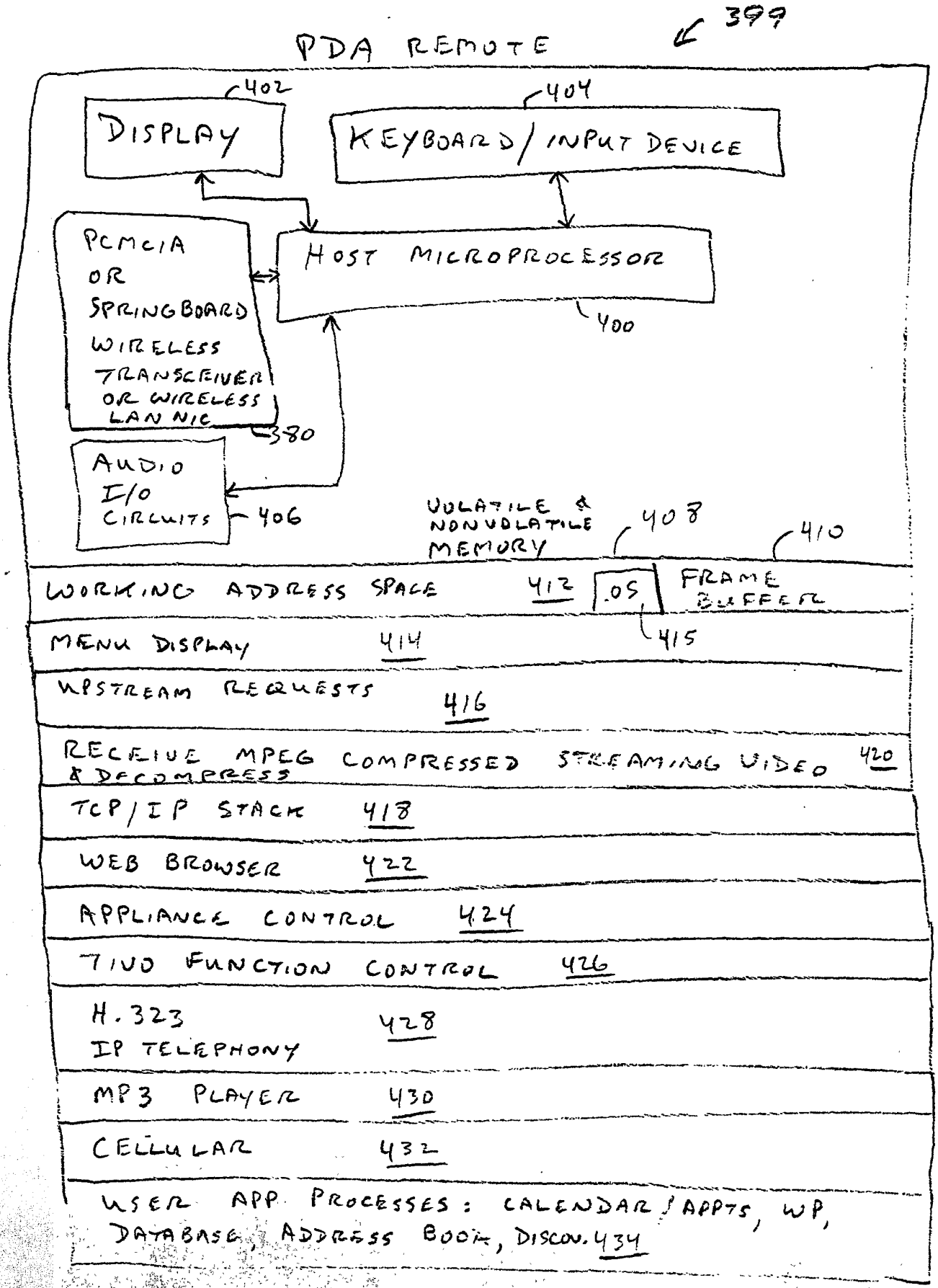

399
PDA REMOTE
402
DISPLAY
404
KEYBOARD / INPUT DEVICE
PCMCIA OR SPRINGBOARD WIRELESS TRANSCEIVER OR WIRELESS LAN NIC
380
HOST MICROPROCESSOR
400
AUDIO I/O CIRCUITS
406
VOLATILE & NONVOLATILE MEMORY
408
410
WORKING ADDRESS SPACE
412
.OS
415
FRAME BUFFER
MENU DISPLAY
414
UPSTREAM REQUESTS
416
RECEIVE MPEG COMPRESSED STREAMING VIDEO & DECOMPRESS
420
TCP/IP STACK
418
WEB BROWSER
422
APPLIANCE CONTROL
424
TIVO FUNCTION CONTROL
426
H.323 IP TELEPHONY
428
MP3 PLAYER
430
CELLULAR
432
USER APP PROCESSES: CALENDAR / APPTS, WP, DATABASE, ADDRESS BOOK, DISCON.
434

FIG 9